

Patent Claims

1. Probe head for NMR measurements, consisting of a support body (6) carrying a solenoid coil (7) as measuring coil, as well as of a feed line (12) towards the solenoid coil (7) via which a sample material can be introduced into a measuring volume (9) surrounded by said solenoid coil (7),  
5 characterised in  
that said feed line (12) is configured for receiving and conveying sample containers (10).
2. Probe head according to Claim 1,  
10 characterised in  
that said solenoid coil (7) is detachably connected to said support body (6).
3. Probe head according to Claim 2,  
characterised in  
15 that said detachable connection is configured between said support body (6) and said solenoid coil (7) as plug-and-socket connector (8).
4. Probe head according to any of the Claims 1 to 3,  
characterised in  
20 that said feed line (12) is configured for receiving several sample containers (10) disposed in succession.
5. Probe head according to any of the Claims 1 to 4,  
characterised in  
25 that said feed line (12) is connected to a conveying mechanism (13) that permits stepwise conveyance of said sample containers (10) in said feed line (12).

6. Probe head according to Claim 5,  
characterised in  
that said conveying mechanism (13) realises the transport by pressing in air  
or other propelling agents into said feed line (12).

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7. Probe head according to any of the Claims 1 to 6,  
characterised in  
that said sample containers (10) are so dimensioned that they can be com-  
pletely introduced into said measuring volume (9).

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8. Probe head according to any of the Claims 1 to 6,  
characterised in  
that said sample containers (10) are configured for receiving a maximum  
sample volume of  $\leq 1 \text{ ml}$ .

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9. Probe head according to any of the Claims 1 to 8,  
characterised in  
that said feed line (12) is passed from a receiving opening of said probe head  
(4) for said sample containers (10) completely through said measuring vol-  
ume (9) up to a discharge opening of said probe head (4) for said sample  
containers (10).

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10. Probe head according to any of the Claims 1 to 9,  
characterised in  
that said feed line (12) presents a tubular configuration.
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11. Probe head according to any of the Claims 1 to 10,  
comprising several solenoid coils (7) of different size, which can be con-  
nected to said support body (6) in alternation.

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12. Method of operating a probe head according to any of the Claims 1 to 10, wherein the sample material is charged into a sample container (10), said sample container (10) is introduced into said feed line (12), is conveyed in said feed line (12) along a conveying direction to said measuring volume (9) and is conveyed, after measurement, again via said feed line (12) along the same conveying direction out of said measuring volume (9).  
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13. Method according to Claim 12, wherein said sample container (10) is conveyed by means of a propelling agent in said feed line (12).
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14. Method according to Claim 12 or 13, wherein several sample containers (10) with the same or with different sample materials are initially introduced in succession into said feed line (12) and are subsequently conveyed together in steps in said feed line (12) for measuring them in succession.